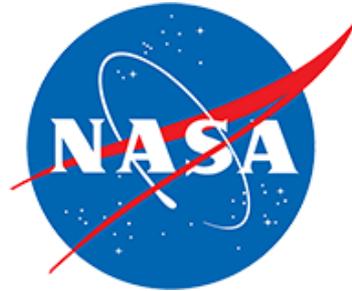


# Open Data Federation



Prepared for LSDA Winter Meeting 2016

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# Topics

- About the HQ OCIO Open Innovation Team
- What is Open Data
- Open Data Federation
- [Data.nasa.gov](https://data.nasa.gov)
- [Data.gov](https://data.gov)
- Work in progress
- Questions

# About

- Part of HQ OCIO Technology & Infusion Division (T&I)
- The Open Innovation Team has the charter to:
  - Implement OMB Mandates on Open Data
    - M-13-13
  - Create and maintain an Open Data Registry
  - Standup and continue to build a robust API program
  - Other Activities

<https://open.nasa.gov/open-data/>

# What is Open Data

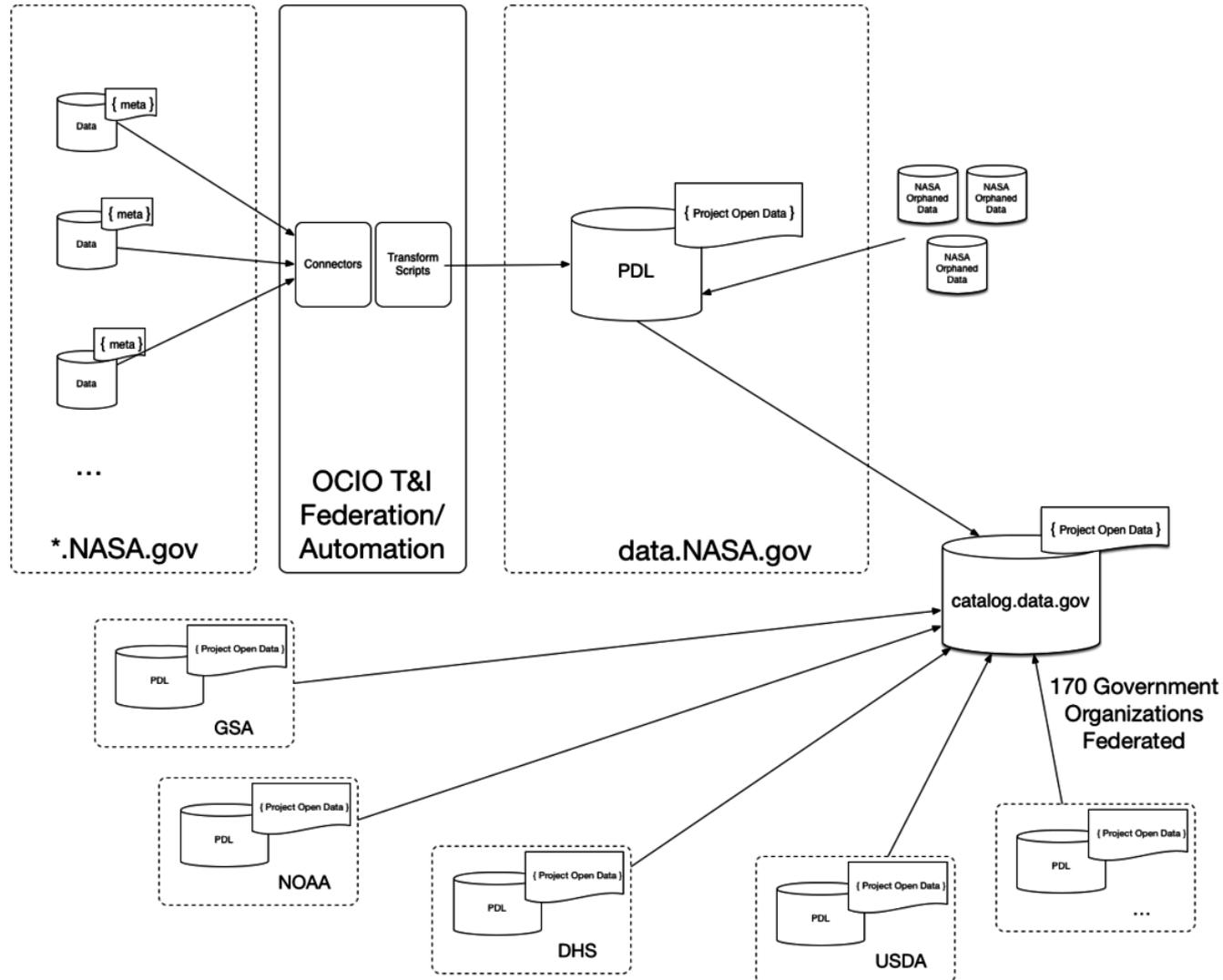
- NASA Missions/Projects/Programs create and publish data making it available to the public as Open Data
  - no ITAR, SBU, PII is made available
- Open Data is made available on domain specific sites (e.g.: GeneLab, EOSDIS, NASA3D) as the authoritative source
- Data is now available for use in academia, STEM, citizen science projects, Hackathons, entrepreneurship, etc.

<https://spaceappschallenge.org>

# Open Data Federation

- NASA maintains a Public Data Listing commonly referred to as the PDL
- The PDL is a machine-readable metadata descriptor that contains "pointers" to existing NASA datasets
- Datasets are described using a federal government-wide standard - Project Open Data v1.1
  - <https://project-open-data.cio.gov/v1.1/schema>

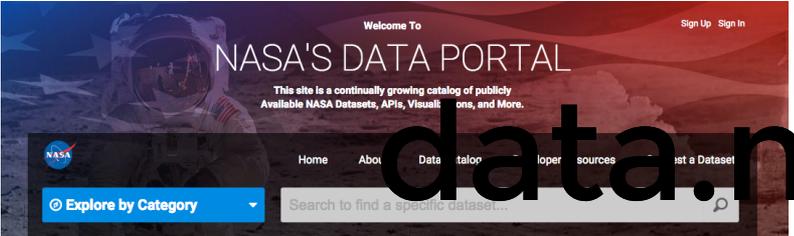
# Open Data Federation



# data.nasa.gov

- NASA Open Data Portal provides:
  - A dataset metadata registry
  - Dataset hosting
  - API Wrappers/API Key Infrastructure
  - Visualization
  - Citizen Engagement / Feedback

<https://data.nasa.gov>

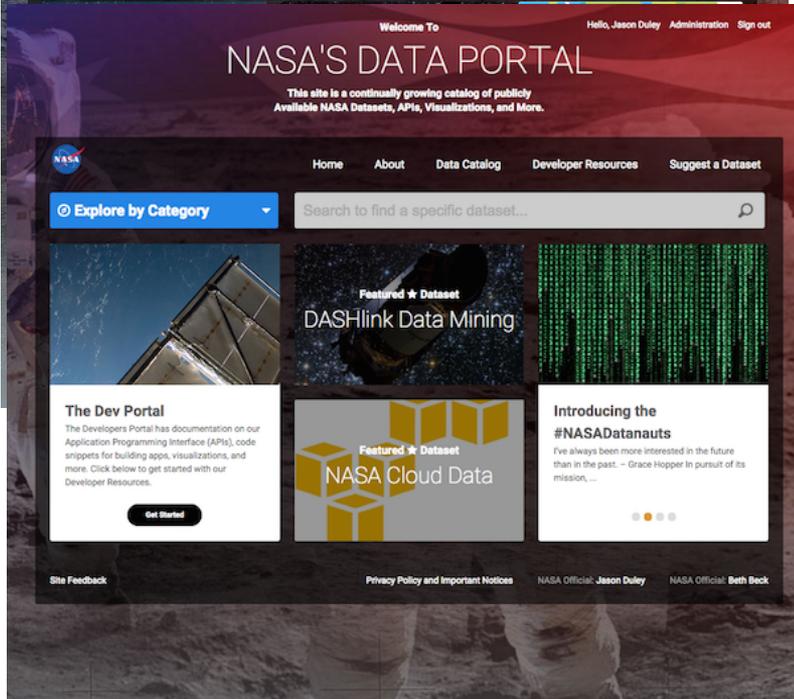


# data.nasa.gov

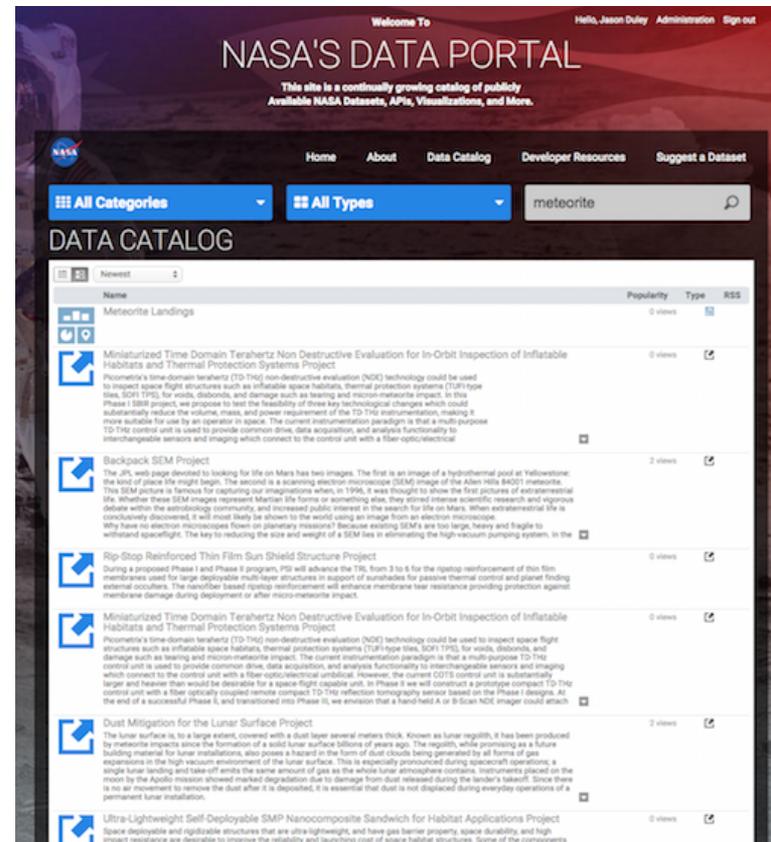
- data.nasa.gov home page



- Data Catalog
- Developer Portal
- Data Success Stories



- Data Catalog
  - Search by Keywords
  - Filter by Categories/Types
    - Maps
    - Charts
    - APIs
    - Datasets



# Quick Demo

# data.gov

- Data.gov is a GSA led effort to federate open data across the federal government
- Contains metadata from over 170 federal agencies
- Federated PDLs are consolidated at [catalog.data.gov](http://catalog.data.gov)

<https://www.data.gov/about>

<http://catalog.data.gov/dataset>

# Work in progress

- Our team is leading a Data Science effort to create re-usable services leveraging machine learning and natural language processing technologies
- Two services currently under development to be integrated into [data.nasa.gov](http://data.nasa.gov) include:
  - Keyword Generation
  - Creation of Dataset Relevancy
- Goal is to enable the capability end of FY16

**Thank you!**  
**Questions**  
**& Discussion**

# Backup

# API Catalog

- One stop shop to get started using NASA APIs
- Promotes citizen contribution

Welcome to the NASA API portal. The objective of this site is to make NASA data, including imagery, eminently accessible to application developers. The api.nasa.gov catalog is growing.

### Getting Started

Most developers getting started with api.nasa.gov wish to leverage NASA data in their applications and services, and this is encouraged! There are also developers that have existing APIs that they may wish to [contribute](#) to the NASA API site. Below describes two paths on how to "use" our APIs as well as "contribute" to our API catalog. First, to get started with using NASA APIs, we recommend [applying for an API key](#), reviewing the [Authentication](#) section, then once ready, dive in to [API calls](#).

USE → Get Your API Key → Overview Authentication → API

- Site dedicated to NASA APIs
- Sign up for developer keys
- Live code editor integrated with site to experiment with API
- Templates for API documentation

<https://api.nasa.gov>

# API Program

- Why API Management is needed
  - Increasing number of APIs
  - Finer-grained resource allocation
  - API access control
- Deployment vs. Management
  - mgmt layer sits in front of deployment (e.g.: micro-service)
- Features
  - Caching, Rate Limiting, API Keys
  - Provides hooks for analytics